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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,037	07/25/2003	John R. Brewer	696-260	3740

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HEDMAN & COSTIGAN P.C.
1185 AVENUE OF THE AMERICAS
NEW YORK, NY 10036

EXAMINER

WALBERG, TERESA J

ART UNIT	PAPER NUMBER
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3753

DATE MAILED: 07/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

10/627,037

Applicant(s)

BREWER ET AL.

Examiner

Teresa J. Walberg

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/27/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because it should not contain the phrase "the present invention discloses". Correction is required. See MPEP § 608.01(b).

3. The drawings are objected to because they are clearly informal. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency.

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Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, 8-10, 15, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Nenstiel et al (5,050,669).

Nenstiel et al disclose (see Fig. 4(a)) a system (10) for stabilizing process tubes (12) including surrounding a portion of the tubes (12) with at least one apparatus having at least two rods (26), having at least two spacers (16) attached thereto, at least one rod retaining means on the rod (col. 4, lines 25-26), wherein the rods and spacers are comprised of temperature resistant material (col. 2, lines 67 and col. 3, lines 16 and 25-26), the tubes comprising reactor furnace tubes (note that since the tubes would be capable of use in a reactor furnace the statement of intended use is deemed to be met), the tubes being straight and vertical (Fig. 1), the apparatus and the tubes being constructed of a

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temperature resistant non-nickel containing material (col. 2, lines 67 and col. 3, lines 16 and 25-26).

6. Claims 1, 2, 4 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Fornier (4,589,618).

Fornier discloses (see Figs. 1 and 2) a system (Fig. 6) for stabilizing process tubes (5) including surrounding a portion of the tubes (5) with at least one apparatus having at least two rods (6a, 7b), having at least two spacers (19) attached thereto, at least one rod retaining means (21) on the rod (19), wherein the rods and spacers are comprised of temperature resistant material (sufficient to withstand hot liquid sodium), the tubes (5) comprising reactor furnace tubes, the tubes being u shaped or bent (see Fig. 1).

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nenstiel et al (5,050,669) in view of Kusters (4,889,182).

Nenstiel et al, as discussed above, disclose the claimed subject matter with the exception of the device being a pyrolysis furnace. Kusters teaches the use of elongated tubes in a pyrolysis furnace. It would have been obvious in

view of Kosters to use the tube securing structure of Nenstiel et al in a pyrolysis furnace in order to secure the tubes in place.

9. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nenstiel et al (5,050,669) in view of Kritzer et al (2,118,206).

Nenstiel et al, as discussed above, disclose the claimed subject matter with the exception of the tubes being serpentine. Kritzer et al teach the use of serpentine tubes for heat transfer. It would have been obvious in view of Kritzer et al to use a serpentine tube arrangement in the heat exchanger of Nenstiel et al, the motivation being to increase the tube surface area and thus increase the heat transfer.

10. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nenstiel et al (5,050,669) in view of Weiss et al (4,834,173).

Nenstiel et al, as discussed above, disclose the claimed subject matter with the exception of the tubes being swaged. Weiss et al teach the use of swaging to shape tubes in heat exchanger. It would have been obvious in view of Weiss et al to use swaging for the tubes in the heat exchanger of Nenstiel et al, the motivation being to enable shaping the tube ends to better secure them to an end connection as taught by Weiss et al.

11. Claims 11-13 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nenstiel et al (5,050,669) in view of Hattori et al (6,005,824).

Nenstiel et al, as discussed above, disclose the claimed subject matter with the exception of the apparatus being constructed of ceramic material, such as silicon carbide or silicon nitride. Hattori et al teach a heat exchanger having tubes and tube supports constructed of ceramic material, such as silicon carbide or silicon nitride. See col. 4, lines 5-8. It would have been obvious in view of Hattori et al to use a tubes and tube supports constructed of ceramic material, such as silicon carbide or silicon nitride, in the heat exchanger of Nenstiel et al, the motivation being to make the apparatus more resistant to high temperatures.

12. Claims 14 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nenstiel et al (5,050,669) in view of Hattori et al (6,005,824) as applied to claims 11-13 and 17-19 above and further in view of Yamamoto et al (EP 1018563, cited by applicant).


Nenstiel et al in view of Hattori et al, as discussed above, disclose the claimed subject matter with the exception of the apparatus being constructed of a ferrous alloy. Yamamoto et al teach a heat exchanger having a tube constructed of the claimed material. See the abstract. It would have been obvious in view of Yamamoto et al to use a ferrous alloy for the heat exchanger of Nenstiel et al, the motivation being to make the apparatus stronger and more resistant to high temperatures.

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kochey et al, Meixl, Lecon, Meuschke et al, Sabatino, and Moore are cited to show tube supports.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Teresa J. Walberg whose telephone number is 571-272-4790. The examiner can normally be reached on M-F 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Mancene can be reached on 571-272-4930. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Teresa J. Walberg
Primary Examiner
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